DOCKET NO.: CNST-3169 **Application No.:** 10/013,985

Office Action Dated: February 23, 2004

REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

- 1-38 Canceled
- 39. (Withdrawn) A wall for a package which comprises multiple polymeric layers, said multiple polymeric layers comprising a layer (A) and a layer (B), said layer (A) comprising an oxidizable organic polymer which scavenges oxygen, and a transition metal in a positive oxidation state, wherein said layer (A) the oxidizable organic polymer, the transition metal and the respective amounts thereof are selected so that the layer (A) will scavenge oxygen during a period of oxygen scavenging, the period of oxygen scavenging being maintainable for at least 20 days at 23° C and 50% relative humidity and the permeance of the wall for oxygen during said period of oxygen scavenging being not more than 0.5 cm³/ (m² atm day) and at most three-quarters of that which it would have had in the absence of oxygen scavenging; and said layer (B) comprising a nonoxidizable polymer.
- 40. (Withdrawn) The wall according to claim 39, wherein said layer (A) is adjacent said layer (B).
- 41. (Withdrawn) The wall according to claim 40, wherein said layer (A) is between and adjacent two said layers (B), one on either side.
- 42. (Withdrawn) The wall according to claim 39, wherein said wall is in the form of a rigid container which is self-supporting when empty.
- 43. (Withdrawn) The wall according to claim 39, wherein said oxidizable polymer is a copolymer of m-xylylenediamine and adipic acid.

DOCKET NO.: CNST-3169 Application No.: 10/013,985

Office Action Dated: February 23, 2004

REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

44. (Withdrawn) The wall according to claim 43, wherein the polymer in said layer (A) consists entirely of said copolymer of m-xylylenediamine and adipic acid.

- 45. (Withdrawn) The wall according to claim 44, wherein said nonoxidizable polymer is polyethylene terephthalate.
- 46. (Withdrawn) The wall according to claim 45, wherein said layer (A) is adjacent to said layer (B).
- 47. (Withdrawn) The wall according to claim 46, wherein said layer (A) is between and adjacent two said layers (B), one on either side.
- 48. (Withdrawn) The wall according to claim 47, wherein the wall is in the form of a beverage bottle.
- 49. (Withdrawn) The wall according to claim 39, wherein the period during which the permeance of the wall for oxygen is not more than $0.5 \text{ cm}^3/\text{ (m}^2 \text{ atm day)}$ is at least 20 days.
- 50. (Withdrawn) The wall according to claim 49, wherein the period during which the permeance of the wall for oxygen is not more than $0.5 \text{ cm}^3/\text{ (m}^2 \text{ atm day)}$ is at least 100 days.
- 51. (Withdrawn) The wall according to claim 39, wherein the permeance of the wall for oxygen during said period is not more than one-half of what it would have been in the absence of oxygen-scavenging.

DOCKET NO.: CNST-3169 **Application No.:** 10/013,985

Office Action Dated: February 23, 2004

REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

52. (Withdrawn) The wall according to claim 51, wherein the permeance of the wall for oxygen during said period is not more than one-tenth of what it would have had in the absence of oxygen-scavenging.

- 53. (Withdrawn) The wall according to claim 39, wherein the permeance of the wall for oxygen falls to three-quarters of what it would have been in the absence of oxygen scavenging within 30 days of the wall being fabricated.
- 54. (Withdrawn) A bottle comprising a wall made of multiple polymeric layers, said multiple polymeric layers comprising at least one layer (A) and at least one layer (B); said at least one layer (A) comprising an oxidizable organic polymer which scavenges oxygen and a transition metal in a positive oxidation state, wherein in said at least one layer (A) the oxidizable organic polymer, the transition metal and the respective amounts thereof are selected so that the wall will scavenge oxygen during a period of oxygen scavenging, the period of oxygen scavenging being maintainable for at least 20 days at 23° C and 50% relative humidity and the permeance of the wall for oxygen during said period of oxygen scavenging being not more than 0.5 cm³/ (m² atm day); and said at least one layer (B) comprising a nonoxidizable polymer.
- 55. (Withdrawn) The bottle according to claim 54, wherein said wall is self-supporting when empty.
- 56. (Withdrawn) The bottle according to claim 54, wherein said oxidizable polymer is a copolymer of m-xylylenediamine and adipic acid.

DOCKET NO.: CNST-3169 **Application No.:** 10/013,985

Office Action Dated: February 23, 2004

REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

57. (Withdrawn) He bottle according to claim 56, wherein said nonoxidizable polymer is polyethylene terephthalate.

- 58. (Withdrawn) The bottle according to claim 57, wherein at least one of said layers (A) is adjacent to at least one of said layers (B).
- 59. (Withdrawn) The bottle according to claim 58, wherein the polymer in said layer (A) consists of said copolymer of m-xylylenediamine and adipic acid.
- 60. (Withdrawn) The bottle according to claim 54, wherein the period during which the permeance of the wall for oxygen is not more than 0.5 cm³/ (m² atm day) is at least 20 days.
- 61. (Withdrawn) The bottle according to claim 60, wherein the period during which the permeance of the wall for oxygen is not more than 0.5 cm³/ (m² atm day) is at least 100 days.
- 62. (Withdrawn) The bottle according to claim 54, wherein the permeance of the wall for oxygen during said period is not more than one-half of what it would have been in the absence of oxygen-scavenging.
- 63. (Withdrawn) The bottle according to claim 60, wherein the permeance of the wall for oxygen during said period is not more than one-tenth of what it would have had in the absence of oxygen scavenging.
- 64. (Withdrawn) The bottle according to claim 54, wherein the permeance of the wall for oxygen falls to three-quarters of what it would have been in the absence of oxygen scavenging within 30 days of the wall being fabricated.

Page 5 of 15

DOCKET NO.: CNST-3169

Application No.: 10/013,985

Office Action Dated: February 23, 2004

REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO

37 CFR § 1.116

65. (Withdrawn) A bottle comprising of a wall made of multiple polymeric layers, said multiple polymeric layers comprising at least one layer (A) having two nonoxidizable layers (B) adjacent thereto, one on either side; the polymeric material of said at least one layer (A) consisting entirely of an oxidizable organic copolymer of m-xylylenediamine and adipic acid, and said at least one layer (A) further comprising a transition metal in a positive oxidation state, wherein in said at least one layer (A) the oxidizable organic copolymer, the transition metal and the respective amounts thereof are selected so that the wall will scavenge oxygen during a period of oxygen scavenging during which the permeance of the wall for oxygen is not more than 0.5 cm³/ (m² atm day); and each said at least one nonoxidizable layer (B) comprising polyethylene terephthalate.

- 66. (Withdrawn) The bottle according to claim 65, containing a beverage.
- 67. (Withdrawn) The bottle according to claim 66, wherein said beverage is beer, wine, fruit juice, or soft drink.
- 68. (Withdrawn) The bottle according to claim 67, wherein said beverage is beer.
- 69. (Currently Amended) An <u>oxygen-scavenging monolayer container wall</u>

 <u>comprising an oxygen-scavenging composition, the oxygen-scavenging composition</u> comprising:

a non-oxidizable polyester component;

a polymeric organic oxidizable component; and

a transition metal in the positive oxidation state that promotes the oxidation of the polymeric organic oxidizable component that, when incorporated into a

DOCKET NO.: CNST-3169 Application No.: 10/013,985

Office Action Dated: February 23, 2004

REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

monolayer container wall, wherein the monolayer container wall achieves an oxygen permeance

of not more than 10.0 cm³/m² atm day, in part as the result of the transition metal in the positive

oxidation state promoting the oxidation of the polymeric organic oxidizable component, wherein

the polymeric organic oxidizable component is present in the wall in the range of from 1

to 7 weight percent.

70. (Currently Amended) The composition monolayer container wall of claim

69 wherein the monolayer container wall including the composition achieves an oxygen

permeance of not more than 2.0 cm³/m² atm day, in part as the result of the transition metal in

the positive oxidation state promoting the oxidation of the polymeric organic oxidizable

component.

71. (Currently Amended) The composition monolayer container wall of claim

70 wherein the monolayer container wall including the composition achieves an oxygen

permeance of not more than 0.5 cm³/m² atm day, in part as the result of the transition metal in

the positive oxidation state promoting the oxidation of the polymeric organic oxidizable

component.

72. Canceled.

73. (Currently Amended) The composition monolayer container wall of any

of claims 69-71 wherein the non-oxidizable polyester component is polyethylene terephthalate.

74. Canceled.

Page 7 of 15

DOCKET NO.: CNST-3169 Application No.: 10/013,985

Office Action Dated: February 23, 2004

REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

75. (Currently Amended) The eomposition monolayer container wall of any of claims 69-71 wherein the non-oxidizable polyester component and the polymeric organic oxidizable component are separate polymers.

76. (Currently Amended) The eomposition monolayer container wall of claim 75 wherein the polymeric organic oxidizable component contains units of the formula -NH-CH₂-arylene-CH₂-NH-CO-alkylene-CO-.

77. (Currently Amended) The composition monolayer container wall of claim 76 wherein the polymeric organic oxidizable component is MXD6.

78. (Currently Amended) The composition monolayer container wall of claim 77 wherein the non-oxidizable polyester component is about 96 % by weight of the oxygen-scavenging composition.

79. (Currently Amended) The composition monolayer container wall of claim 78 wherein the oxidizable component is about 4% by weight of the oxygen-scavenging composition.

80. (Currently Amended) The composition monolayer container wall of claim 79 wherein the transition metal is cobalt.

81. (Canceled)

82. (Previously presented) An oxygen-scavenging composition comprising:
a non-oxidizable polyester component;
a polymeric organic oxidizable component; and

DOCKET NO.: CNST-3169

Application No.: 10/013,985

Office Action Dated: February 23, 2004

REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO

37 CFR § 1.116

a transition metal in the positive oxidation state that promotes the oxidation of the polymeric organic oxidizable component that, when incorporated into a monolayer container wall, the monolayer container wall achieves an oxygen permeance of not more than three-quarters of the permeance of the monolayer wall in the absence of oxygen scavenging as a result of the transition metal in the positive oxidation state promoting the oxidation of the polymeric organic oxidizable component.

- 83. (Previously Presented) The composition of claim 82, wherein the oxygen-scavenging composition achieves an oxygen permeance of not more than one-half of the permeance of the monolayer wall in the absence of oxygen scavenging.
- 84. (Previously Presented) The composition of any of claims 82-83 wherein the non-oxidizable polyester component is polyethylene terephthalate.
- 85. (Previously Presented) The composition of any of claims 82-83 wherein the non-oxidizable polyester component and the polymeric organic oxidizable component are separate polymers.
- 86. (Previously Presented) The composition of claim 85 wherein the polymeric organic oxidizable component contains units of the formula -NH-CH₂-arylene-CH₂-NH-CO-alkylene-CO-.
- 87. (Previously Presented) The composition of claim 86 wherein the polymeric organic oxidizable component is MXD6.
- 88. (Previously Presented) The composition of any of claims 82-83 wherein the transition metal component is cobalt.

DOCKET NO.: CNST-3169

Application No.: 10/013,985
Office Action Dated: February 23, 2004

REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

(Previously Presented) The composition of claim 87 wherein the transition metal is cobalt.